FINAL REPORT

An Impact Assessment of Investment in FRDC Project 2017-242:

Our Pledge - Australian seafood industry response to community values and expectations

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An Impact Assessment of Investment in FRDC Project 2017-242: Our Pledge - Australian seafood industry response to community values and expectations
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In submitting this report, the researcher has agreed to FRDC publishing this material in its edited form.

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Abbreviations

ABARES	Australian Bureau of Agricultural and Resource Economics and Sciences
ACPF	Australian Council of Prawn Fishers
CBA	Cost-Benefit Analysis
CRRDC	Council of Rural Research and Development Corporations
FRDC	Fisheries Research and Development Corporation
GVP	Gross Value of Production
NSW	New South Wales
PVB	Present Value of Benefits
QLD	Queensland
RD&E	Research, Development and Extension
SIA	Seafood Industry Australia

Executive Summary

This report presents an impact assessment of investment in Fisheries Research and Development Corporation (FRDC) Project 2017-242: *Our Pledge - Australian seafood industry response to community values and expectations*. The assessment was completed as part of a cost-benefit analysis for inclusion in the FRDC 2022-23 Annual Report. The assessment was made up of six FRDC RD&E projects.

The impact assessment followed general evaluation guidelines that are now well entrenched within the Australian primary industry research sector including Research and Development Corporations, Cooperative Research Centres, State Departments of Agriculture, and some universities. The approach includes both qualitative and quantitative assessment components that are in accord with the impact assessment guidelines of the Council of Rural Research and Development Corporations.

The investment has led to a range of potential economic and social impacts. Importantly, Project 2017-242 contributed to:

- Maintained or improved social license to operate for the Australian seafood industry through uptake of ''Our Pledge'' as an improved mechanism for industry stakeholders to clearly understand and respond to community concerns and values and to enable the industry's growth, prosperity, and contribution to society on a continued basis.
- Increased regional community wellbeing from spill over benefits to regional communities from more economically and/or environmentally sustainable Australian seafood industry.
- Potentially improved security of resource access, regulatory certainty and trust, and positively impact mental health and safety within Australian Seafood Industry through improved decision makings by the industry about investing resources in undertaking specific engagement activities and strategies, which are informed by knowledge of their own as well as community values, and those industry behaviours that support or detract from levels of community trust and acceptance of their activities.

Total funding for the Project was $0.26 million (present value terms) and produced total expected net benefits of $0.78 million (present value terms). This produced an estimated net present value of $0.52 million, a benefit-cost ratio of 3.0 to 1, an internal rate of return (IRR) of 35.8%, and a modified IRR of 9.2% (over 30 years, using a 5% discount rate and 5% finance rate).

Given the conservative assumptions made (including exclusion of aquaculture from the impact valuation) and the fact that two impacts were not valued in monetary terms, the investment criteria reported are likely to be an underestimate of the true performance of the investment in Project 2017-242 and the positive results should be viewed favourable by FRDC, the Australian Government, industry, and other RD&E stakeholders.

Keywords

2017-242, Social License, Evaluation, Impact Assessment, Community Values, Cost-Benefit Analysis, Australian seafood industry

Introduction

The Fisheries Research and Development Corporation (FRDC) required a series of cost-benefit analyses of selected RD&E investments (projects) for inclusion in the FRDC 2022/23 Annual Report. The assessments were completed to contribute to the following FRDC evaluation reporting requirements:

- Reporting against the FRDC 2020-2025 RD&E Plan and the Evaluation Framework associated with FRDC's Statutory Funding Agreement with the Commonwealth Government.
- Annual Reporting to FRDC funding partners and other stakeholders.
- Reporting to the Council of Rural Research and Development Corporations (CRRDC).
- Reporting RD&E impact and performance to FRDC levy payers and other fisheries and aquaculture stakeholders as well as the broader Australian community.

In August 2023, FRDC commissioned ACRE Economics Pty Ltd and associates to undertake cost-benefit analyses (CBAs) of six RD&E projects funded under the FRDC 2020-2025 RD&E Plan and completed in the years ended 30 June 2017 to 2021. The projects were selected by FRDC and spanned the organisation's current RD&E Programs and Strategic Outcomes. The projects were selected by FRDC and spanned the organisation's current RD&E Programs and Strategic Outcomes. The sample selected (six projects) comprises a relatively small proportion of the FRDC's total RD&E investment (~5%) of the relevant population and may, therefore, not be fully representative of the entire RD&E Portfolio. However, the projects evaluated provide insight into the activities and outputs associated with each of FRDC's RD&E Programs, and the outcomes and impacts (and benefits) created. In turn, this will enable communication of benefits of FRDC RD&E to the FRDC Board, funding partners including the Commonwealth, industry, and other stakeholders.

The six projects selected by FRDC for evaluation in calendar 2023 were:

1. 2016-224: *Boosting fisher returns through smart value adding and greater use of underutilised species*
2. 2016-261: *Investigating the use of trace element profiles to substantiate provenance for the Australian prawn industry*
3. 2017-242: *Our Pledge: Australian seafood industry response to community values and expectations*
4. 2018-148: *A Stock Assessment Toolbox for Australian Fisheries*
5. 2018-164: *Commercial production trial with high POMS tolerant triploid Pacific Oysters in approved NSW estuaries*
6. 2018-205: *Informing strategies, policies and options supporting owner-operated fishing businesses in fisheries experiencing corporatisation*

This report presents the assessment process and findings for Project 2017-242: *Our Pledge: Australian seafood industry response to community values and expectations*.

Evaluation Framework

The annual impact assessments of FRDC RD&E investments followed general evaluation guidelines that are now well entrenched within the Australian primary industry research sector including Research and Development Corporations, Cooperative Research Centres, State Departments of Agriculture, and some universities. The approach includes both qualitative and quantitative assessment components that are in accord with the current guidelines for impact assessment published by the CRRDC (CRRDC, 2018).

The evaluation process utilised an input to impact continuum RD&E project inputs (costs), objectives, activities, and outputs were briefly described and documented. Actual and expected outcomes, and any actual and/or potential future impacts (positive and/or negative) associated with project outcomes then were identified and described. The principal economic, environmental, and social impacts were then summarised in a triple bottom line framework and validated through consultation with expert personnel and review of published literature.

Once impacts were identified and validated, an assessment then was made about whether to quantify/value any of the impacts in monetary terms as part of the project-level analysis. The decision to value an impact identified was based on:

- Data availability and information necessary to form credible valuation assumptions,
- The complexity of the relevant valuation methods applicable given project resources,
- The likely magnitude of the impact and/or the expected relative value of the impact compared to other impacts identified, and
- The strength of the linkages between the RD&E investment and the impact identified.

Where one or more of the identified impacts were selected for valuation, the impact assessment used cost-benefit analysis (CBA) as a principal tool. The impacts valued therefore were deemed to represent the principal benefits delivered by the project investment. However, as not all impacts were valued (based on the selection criteria), the investment criteria estimated for the project investment evaluated are likely to represent an underestimate of the true performance of the FRDC project.

The qualitative and quantitative analysis processes, data sources, assumptions, specific valuation frameworks (where applicable), and evaluation results were clearly documented and then integrated into a written report.

Project Background

Background

Social license and community perceptions are critical issues for the ongoing viability and prosperity of the Australian Seafood Industry (represented by national peak-body Seafood Industry Australia (SIA)). To improve the industry's social license to operate and achieve high levels of support from immediate stakeholders and the Australian public, SIA desired to identify measures and benchmarks of industry behaviours that are consistent with industry values, behaviours, and values that the community shares and deems important regarding how industry acts.

Rationale for Project 2017-242

FRDC Project 2017-242 was funded to establish a mechanism for SIA to clearly understand and respond to community concerns and values and improve and maintain social license at an industry scale. The mechanism was required to have capacity to enable the seafood industry's growth, prosperity, and contribution to society into the future.

Project Details

Summary

Project Code: 2017-242

Title: *Our Pledge - Australian seafood industry response to community values and expectations*

Research Organisation: Fisheries Research and Development Corporation (FRDC)

Principal Investigator: Jane D. Lovell, Chief Executive Officer, Seafood Industry Australia (SIA)

Period of Funding: August 2018 to September 2019

FRDC Program Allocation: Adoption 50%, Industry 50%

Objectives

The specific objectives of the project were to:

1. Identify values of major segments of the Australian community for fisheries resources and seafood industries, and expectations of industry behaviours that support those values.
2. Identify values of the Australian seafood industry that are common across the industry at national and sector/regional scales.
3. Establish industry response to community values and expectations, including measurable benchmarks of industry behaviours and performance that demonstrate commitment.
4. Demonstrate and evaluate the effectiveness of a community engagement and communication strategy that is built on recognised shared values and commitment to supporting industry behaviours (Extension proof of concept – Australian Council of Prawn Fishers).
5. Increase capacity of industry's current and emerging leaders to engage in values and behaviours conversations with community leaders on an ongoing basis.

Logical Framework

Table 1: Logical Framework for FRDC Project 2017-242

Activities	**Identifying community values and perceptions of desirable industry practices:** • SIA commissioned Futureye Pty Ltd, a community engagement and research consultancy, to review existing research into community attitudes to understand society's current values and expectations about the industry. • This review included other market research with a focus on primary data collected through population-wide surveys on community values undertaken since 2014. • Based on the review of this information, recommendations were provided to inform a highly effective charter or promise. • To validate results of this review, the findings were reviewed against similar research Futureye that had undertaken for individual industry participants and the Northern Territory Seafood Council. **Review of industry values and practices:** • A rapid analysis of the most common Australian industry values and underpinning behaviours (practices) was undertaken by Sea Change Consulting Australia by reviewing values statements and recorded practices of 52 seafood organisations. • Using the organisation's website text, strategic documents, newsletters and media releases, 'Values Statements' were extracted.

	• In total, 1014 Values Statements and Practices were analysed (571 Values Statements, 443 Practices). • Each Values Statement and Practice was coded using a grounded theory approach (Strauss & Corbin, 1997) given the research was exploratory. • Each value statement and practice were given a code (category) name and then were amalgamated into broader codes. • The iterative coding approach was repeated and refined until there were as few codes as possible, without losing important detail (a total of 43 codes for all the Values Statements and Practices). • The percentage of organizations, who made the coded Values Statement and showed evidence of practicing the Stated Value, were calculated. • The data were categorized by industry type (Wildcatch and/or Aquaculture) and by organization type (Industry Association or Business) and examined for differences. **Determining industry response to community values and expectations:** • A draft industry 'charter or promise' to demonstrate the industry's intent to earn its social license to operate or strawman "Our Pledge", along with evidence of both alignment and misalignment in practices, was drafted for testing at industry workshops. • At a Technical workshop (19 September 2018, Canberra), the collected data was used to develop a first draft of "Our Pledge". • At the workshop, the identified values were examined and compared to identify clusters of themes of values and then were simplified to single statements to capture the cluster of values. • The draft "Our Pledge" was reviewed at an SIA Members' Forum (27 September, Brisbane). • Feedback from the Members' Forum was analysed and reviewed with Kate Brooks (KAL Analysis). • The results of the analysis were used to develop an updated version of "Our • Pledge" that encapsulated industry values and its response to community values and expectations. • The revised version of "Our Pledge" was subsequently tested at a series of workshops held across Australia. **Increase capacity of industry's current and emerging leaders to engage in values and behaviours conversations with community leaders on an ongoing basis:** • Industry workshops were organised by representative organisations in each State/Territory to review and refine draft values and supporting practices as relevant for national, regional and sector scales. • Collaborations were coordinated with National Seafood Industry Leadership Program members of the first 2018 intake to review and refine draft values and supporting practices within their sectors. • Meetings with SIA members were organised to review and refine draft values and supporting practices.
Outputs	**Identification of values of major segments of the Australian community for fisheries resources and seafood industries, and expectations of industry behaviours that support those values:** • A short report to present the findings from the review and synthesis into society's values and expectations of SIA. • The review identified that primary concerns about the fishing industry raised by the community relate to environmental sustainability and industry and government accountability.

- The synthesis of previous research concluded that the most critical issues affecting the community's views of and concerns about SIA should be the focus of the charter or promise.
- It was therefore recommended that the charter should reflect the industry's commitment to sustainability - fishing stocks and habitat - as the primary focus of the promise or charter.
- It was additionally recommended that the charter should reflect the industry's commitment to accountability for industry participants who 'break the rules' as a major element of the charter.
- The findings indicated that community believes strong government action and a strict regulatory environment are critical to ensure genuine industry focus on improved stock and environmental sustainability.
- The literature review also highlighted community awareness about the sustainability of fish stocks globally and to ensure that community engagement becomes an important element of strategy formation and execution.
- While addressing the potential of aquaculture and fish farming to reduce reliance on wild harvest and overfishing, the industry must acknowledge environmental concerns and commit to transparently investigate them and provide solutions to mitigate the adverse effects.

Identification of values of the Australian seafood industry that are common across the industry at national and sector/regional scales:

- Comparisons of industry values and practices undertaken by Sea Change Consulting Australia highlighted several differences and similarities between what seafood organisations valued versus practiced.
- The result of an analysis of the alignment between societal values and expectations based on the similarities in the values and practices of organisations were as follows.
- The key values that were common regardless of the type of organisation or sector were:
    - The sustainability of the environment and its natural resources is paramount, and our seafood is sourced from a pristine environment.
    - The industry is committed to responsible practices and stewardship and will continue to improve.
    - The industry provides high quality, fresh and delicious seafood.
- Key Practices that were common regardless of the type of organisation or sector were:
    - The sustainability of the environment and its natural resources is paramount, and our seafood is sourced from a pristine environment.
    - The industry is undertaking responsible practices and stewardship and is committed to improving.
    - The industry strives to connect to and meet the expectations of seafood consumers and customers.
    - The industry values collaboration, engagement and their relationships with stakeholders, government, businesses, and communities.
    - The industry is committed to sharing information about the industry, business, and products.
    - Building industry and organisational capacity and provide professional development.

Determination of industry response to community values and expectations:

- Based on the research results, the following values and practices were highlighted ubiquitously important:
    - environmental sustainability.
    - responsible practices and stewardship.
    - quality product.

- striving to connect and meet expectations of seafood consumers, customers, and communities.
- desire to collaborate, engage and have positive relationships with stakeholders, government, businesses, and community.
- commitment to sharing information about the industry, businesses, and products.
- Given the many similarities between community concerns and stated industry values and practices, it was assumed that areas of potential misalignment were minimal and likely related to semantics.

- The research by Essence Communications identified 16 key findings in relation to community sentiment towards Australia's Seafood Industry and in evaluating the opportunity for 'Our Pledge':
  1. There appears to be a good understanding of ethical practice and what this means.
  2. There is low awareness of the Australian seafood industry and how it operates.
  3. There are mixed perceptions of the seafood industry and its focus on ethical and sustainable practice.
  4. Those who know more about the seafood industry, who buy Australian seafood and who consume seafood regularly are more positive.
  5. "Our Pledge" offers a good opportunity to further enhance perceptions and community understanding of the seafood industry.
  6. The commitment made in "Our Pledge" must be clear and concise.
  7. There are high expectations when it comes to caring for the environment.
  8. Participants agree that primary producers and workers should be looked after, and their sense is that they are.
  9. Having regard for animal welfare is viewed positively.
  10. The opportunity is to promote transparency and accountability when it comes to complying with the law.
  11. Participants value a level of responsiveness to community concern about how the industry is behaving.
  12. Continuous improvement is viewed as being essential to identifying ways to do and be better.
  13. Stories about the industry, its people and how it works would be highly regarded.
  14. Expectations of proof that the industry is living "Our Pledge" reflects the areas of importance: environment, respecting animals and sustainability.
  15. The role of Marine Parks is relatively unknown.
  16. "Our Pledge" has the potential to positively influence seafood buying behaviour.
- Based on the community sentiment survey research, it was concluded that 'Our Pledge' has the potential to provide a strong and engaging message about the Australian seafood industry and the work it is doing as responsible and environmentally focussed primary producers.
- Creation and lunch of a final digital version of 'Our Pledge' to industry in late October to provide an effective mechanism in assisting industry responses to stakeholder and community interests in a consolidated and targeted manner.
- Annual community sentiment survey with the intent of repeating the survey process to track changes in community support for industry over time.
- Recommendations and templates for future monitoring and tracking of:
  - changes in industry values,
  - changes in values and preferences of major segments of the Australian community, and
  - changes in acceptance of and trust in industry practices by major segments of the Australian community.
- Recommendations for consideration by industry when seeking to engage with
- the Australian community including:
  - Commit to and prioritise transparency and accountability,
  - Develop goals before evaluating performance,

	○ Ensure evidence supporting Our Pledge (and other demonstrations of shared values/behavioural norms) is easy to understand, ○ Engage in regular outreach and engagement, and ○ Be responsive and open to change. • Improved mechanism for building social license at an industry scale via representation of values relevant to the entire diverse national seafood industry, validated via community survey as effective in relating and responding to stakeholder and community concerns to build trust and ultimately support for the seafood industry.
Outcomes	• Uptake of ''Our Pledge'' as is a tool by the Australian seafood industry and broader community to improve the industry's social license to operate and contribute to the industry's growth, prosperity and contribution to society into the future. • Improved communications and engagement activities among SIA members, Australian Council of Prawn Fishers (ACPF), and other industry representative organisations to help industry respond to community values and expectations and increase commitment to supporting industry practices. • Improved decision makings by members of Australian fisheries and aquaculture industries, SIA members, and other industry representatives/ organisations about investing resources in undertaking specific engagement activities and strategies, which are informed by knowledge of their own as well as community values, and those industry behaviours that support or detract from levels of community trust and acceptance of their activities. • Potentially improved adoption of R&D, fisheries management, health and safety practices by Australian seafood industry.
Impacts (Potential)	• Maintained or improved social license to operate for the Australian seafood industry through uptake of ''Our Pledge'' as an improved mechanism for industry stakeholders to clearly understand and respond to community concerns and values and to enable the industry's growth, prosperity, and contribution to society on a continued basis. • Increased regional community wellbeing from spill over benefits to regional communities from more economically and/or environmentally sustainable Australian seafood industry. • Potentially improved security of resource access, regulatory certainty and trust, and enhanced mental health and safety within the Australian Seafood Industry through improved decision making by the industry about investing resources in undertaking specific engagement activities and strategies, which are informed by knowledge of their own as well as community values, and those industry behaviours that support or detract from levels of community trust and acceptance of their activities.

Source: FRDC project documentation

Nominal Investment

Table 2 shows the total annual investment made in project 2017-242 by FRDC and other contributors.

Table 2: Total Investment in FRDC Project 2017-242
(nominal dollar terms)

Year ended 30 June	FRDC ($)	Others ($)	Total ($)
2019	121,100	0	121,100
2020	32,460	0	32,460
Totals	**153,560**	**0**	**153,560**

Source: FRDC project 2017-242 documentation.

Management and Administration Costs

For the FRDC investment, the cost of managing the FRDC funding was added to the FRDC contribution for the project via a management cost multiplier (x1.179). This multiplier was estimated based on a five-year average of the ratio of total FRDC cash expenditure to project expenditure reported in the FRDC's Cash Flow Statement (FRDC Annual Reports, 2018-2022). This multiplier then was applied to the nominal investment by FRDC shown in Table 2. A multiplier of 1.00 was used for administration and management costs for other contributors.

Real Investment and Extension Costs

For the purposes of the impact analysis, the investment costs of all parties were expressed in 2022/23-dollar terms using the Implicit Price Deflator for Gross Domestic Product (ABS, 2023).

No additional costs of extension were included as the activities undertaken during Project 2017-242 were focused on stakeholder engagement, direct extension to end-users, and other communication and extension resources and activities.

Impacts

Table 3 provides a summary of the principal types of potential impacts from Project 2017-242. Impacts have been taken, and potentially expanded, from those listed in Table 1 and categorised using a triple bottom line framework into economic, environmental and social impact types.

Table 3: Principal Potential Impact Types from Investment in FRDC Project 2017-242

Economic	• Nil.
Environmental	• Nil.
Social	• Maintained or improved social license to operate for the Australian seafood industry through uptake of ''Our Pledge'' as an improved mechanism for industry stakeholders to clearly understand and respond to community concerns and values and to enable the industry's growth, prosperity, and contribution to society on a continued basis. • Increased regional community wellbeing from spill over benefits to regional communities from more economically and/or environmentally sustainable Australian seafood industry. • Potentially improved security of resource access, regulatory certainty and trust, and enhanced mental health and safety within the Australian Seafood Industry through improved decision making by the industry about investing resources in undertaking specific engagement activities and strategies, which are informed by knowledge of their own as well as community values, and those industry behaviours that support or detract from levels of community trust and acceptance of their activities.

Public versus Private Impacts

The key impacts from Project 2017-242 were public impacts. Public impacts were delivered through maintained social license to operate for the Australian seafood industry, spill over benefits to regional communities from a more economically and/or environmentally sustainable Australian seafood industry, and potentially improved security of resource access, regulatory certainty and trust, and enhanced mental health and safety within the Australian Seafood Industry.

Some private impacts also may be delivered in the longer-term. Private impacts are likely to be delivered through maintained or improved productivity/profitability for Australian Seafood Industry in the future from increased interest in fisheries and aquaculture careers.

Distribution of Private Impacts

Any private impacts from the investment in Project 2017-242 will primarily accrue to Australian Seafood Industry supply chains, and particularly producers in the short term. Over the longer term, any private benefits will be distributed along seafood supply chains according to relevant supply and demand elasticities.

Impacts on Other Australian Industries

No direct impacts to other Australian industries beyond the Australian Seafood Industry were identified.

Impacts Overseas

No direct impacts to overseas parties were identified.

Match with National Priorities

Australian Agriculture, Science, and Research Priorities

The Australian Government's National Science and Research Priorities and Agricultural Innovation Priorities are reproduced in Table 4. Project 2017-242 indirectly contributed to National Science and Research Priority 1. Further, the RD&E investment may contribute indirectly to all four Agricultural Innovation Priorities because of maintained or improved social license to operate for the Australian seafood industry through uptake of improved mechanism for industry stakeholders to clearly understand and respond to community concerns and values and to enable the industry's growth, prosperity, and contribution to society on a continued basis.

Table 4: Australian R&D Priorities

Australian Government	
National Science and Research Priorities[1]	**National Agricultural Innovation Priorities**[2]
1. Food – optimising food and fibre production and processing; agricultural productivity and supply chains within Australia and global markets. **2. Soil and Water** – improving the use of soils and water resources, both terrestrial and marine. **3. Transport** – boosting Australian transportation: securing capability and capacity to move essential commodities; alternative fuels; lowering emissions. **4. Cybersecurity** – improving cybersecurity for individuals, businesses, government, and national infrastructure. **5. Energy and Resources** – supporting the development of reliable, low cost, sustainable energy supplies and enhancing the long-term viability of Australia's resources industries. **6. Manufacturing** – supporting the development of high value and innovative manufacturing industries in Australia. **7. Environmental Change** – mitigating, managing, or adapting to changes in the environment. **8. Health** – improving the health outcomes for all Australians.	On 11 October 2021, the National Agricultural Innovation Policy Statement was released. It highlights four long-term priorities for Australia's agricultural innovation system to address by 2030. These priorities replace the Australian Government's Rural Research, Development and Extension Priorities which were published in the 2015 Agricultural Competitiveness White Paper. **1.** Australia is a trusted exporter of premium food and agricultural products by 2030. **2.** Australia will champion climate resilience to increase the productivity, profitability, and sustainability of the agricultural sector by 2030. **3.** Australia is a world leader in preventing and rapidly responding to significant incursions of pests and diseases through futureproofing our biosecurity system by 2030. **4.** Australia is a mature adopter, developer, and exporter of digital agriculture by 2030.

[1] Source: 2015 Australian Government *Science and Research Priorities*. https://www.industry.gov.au/data-and-publications/science-and-research-priorities.

[2] Source: 2021 National Agriculture Innovation Policy Statement. https://www.awe.gov.au/agriculture-land/farm-food-drought/innovation/research_and_development_corporations_and_companies#government-priorities-for-investment.

FRDC National RD&E Priorities

Through extensive consultation, the FRDC 2020-2025 RD&E Plan identified five key outcome areas. The five outcome areas were:

1. Growth for enduring prosperity.
2. Best practices and production systems.
3. A culture that is inclusive and forward thinking.
4. Fair and secure access to aquatic resources.
5. Community trust, respect, and value.

Project 2017-242 addressed all outcome areas, with particular emphasis on outcomes 4 and 5.

Valuation of Impacts

The valuation of impacts generally focused on the most important and direct impacts of the investment in project 2017-242. The decision to value any of the impacts identified in Table 3 was based on:

- Data availability and information necessary to form credible valuation assumptions,
- The complexity of the relevant valuation methods applicable given project resources,
- The likely magnitude of the impact and/or the expected relative value of the impact compared to other impacts identified, and
- The strength of the linkages between the RD&E investment and the impact identified.

Impacts Valued

One impact was valued for the assessment of Project 2017-242. The impact valued was:

- Maintained or improved social license to operate for the Australian seafood industry.

Valuation of Impact 1: Maintained social license to operate for some Australian fisheries

The average annual total gross value of production (GVP) for Australian State and Commonwealth wild-catch fisheries was estimated at $1.66 billion (five-year average) (Australian Bureau of Agricultural and Resource Economics and Sciences (ABARES), 2023). The investment in Project 2017-242 has contributed to the uptake of ''Our Pledge'' as an improved mechanism for industry stakeholders to clearly understand and respond to community concerns and values and to enable the industry's growth, prosperity, and contribution to society on a continued basis and therefore contributed to a reduced risk of the loss of the social license to operate for a proportion of the Australian fisheries sector an therefore a reduced risk of loss of profits.

Specific assumptions for the valuation of Impact 1 are reported in Table 5.

Attribution

The specific assumptions used to value Impact 1 were such that 100% of the estimated benefits were assumed to be attributable to the investment in Project 2017-242.

Counterfactual

It was assumed that, without the investment in FRDC Project 2017-242, community pressure, individual industry or enterprise practice change, and/or related RD&E would have contributed to a continued move toward more socially conscious and economically and environmentally sustainable industry values and activities. However, such changes would not be coordinated at a whole of industry level and would be approached ad hoc and therefore less effective and/or efficient. Thus, it was assumed that approximately 60% of the estimated total expected net benefits would still have occurred without the Project 2017-242 investment.

Impacts Not Valued

The impacts not valued included:

- Increased regional community wellbeing from spill over benefits to regional communities from more economically and/or environmentally sustainable Australian seafood industry.
- Potentially improved security of resource access, regulatory certainty and trust, and positively impact mental health and safety within Australian Seafood Industry through improved decision makings by the industry about investing resources in undertaking specific engagement activities and strategies, which are informed by knowledge of their own as well as community values, and those industry behaviours that support or detract from levels of community trust and acceptance of their activities.

Summary of Assumptions

The following tables present the specific assumptions used in the valuation of Impact 1.

Table 5: Summary of Assumptions for the Valuation of Impact 1

Variable	Assumption	Source
WITHOUT investment in Project 2016-417		
Average annual total GVP of Australian State and Commonwealth wild-catch fisheries	$1.66 billion	Five-year average, derived from ABARES (2023) – Gross value of fisheries and aquaculture production, Australia (time series) – Australian fisheries and aquaculture statistics 2021 (excluding aquaculture because the wild catch sector was the considered the sector most subject to the social license issues)
Fisheries net profit as a proportion of GVP	10%	Estimate of average economic profit for Australian industries - Analyst assumption
Average annual net profit of Australian fisheries	$166 million	10% x $1.66 billion p.a.
Proportion of fisheries profit at risk from a loss of social license in any given year	20%	Analyst assumption – conservative estimate based on expert knowledge of the RD&E and socially conscious industry strategies and plans underpinning the Australian seafood industry
Net profit at risk of loss	$33.2 million p.a.	20% x $166 million p.a.
WITH investment in Project 2017-242		
Reduction in risk of loss of social license attributable to uptake of ''Our Pledge'' as an improved mechanism for industry stakeholders to clearly understand and respond to community concerns and values and to enable the industry's growth and prosperity delivered through Project 2017-242	1% risk reduction in any given year	Analyst assumption
Maximum annual value of net profits saved through reduced risk of loss of social license	$0.332 million	1% x $33.2 million p.a.
First year of impact	2019/20	The first year after the completion of project in 2019.
Year of maximum impact	2021/22	Allows for three years of uptake and extension of "Our Pledge" after completion of the project in 2019.
Period of impact	5 years (2021/22 to 2025/26) then declining over another 3 years to 5% residual benefit value from 2028/29 onward	Assumes no further specific investment like Project 2017-242 and therefore gradual decline in the relevance and use (disadoption) of ''Our Pledge''

Variable	Assumption	Source
Risk Factors		
Probability of output	100%	Based on successful completion of Project 2017-242.
Probability of outcome	90%	The probability of outcome refers to the likelihood that the project outputs are adopted/ implemented at the level assumed.
Probability of impact	90%	Refers to the probability that, given adoption (outcome), the impact as estimated will be realised. This allows for exogenous factors that may affect the estimated benefits being achieved.
Attribution of benefits to investment in Project 2017-242	100%	See valuation of impact 1 description reported previously.
Counterfactual	60% of the estimated benefits would have occurred without the Project 2017-242 investment.	

Results

All past costs and benefits were expressed in 2022/23-dollar terms. All costs and benefits were discounted to 2022/23 using a discount rate of 5%. A reinvestment rate of 5% was used for estimating the modified internal rate of return (MIRR). The base analysis used the best available estimates for each variable, notwithstanding a level of uncertainty for many of the estimates. All analyses ran for the length of the investment period plus 30 years from the last year of investment (2019/20) to the final year of benefits assumed.

Investment Criteria

Tables 6 and 7 show the investment criteria estimated for different periods of benefits for the total investment and FRDC investment respectively. The present value of benefits (PVB) for the FRDC investment was estimated by multiplying the total PVB cash flow by the proportion of FRDC investment in real, undiscounted dollar terms (100%). The investment criteria are the same in both Table 6 and Table 7 because FRDC contributed 100% of the investment costs for Project 2017-242.

Table 6: Investment Criteria for Total Investment in Project 2017-242

Investment criteria	**Number of years from year of last investment**						
	0	**5**	**10**	**15**	**20**	**25**	**30**
Present value of benefits ($m)	0.04	0.54	0.73	0.75	0.76	0.77	0.78
Present value of costs ($m)	0.26	0.26	0.26	0.26	0.26	0.26	0.26
Net present value ($m)	-0.22	0.28	0.47	0.49	0.50	0.51	0.52
Benefit-cost ratio	0.16	2.10	2.83	2.89	2.94	2.98	3.01
Internal rate of return (%)	negative	30.8	35.7	35.8	35.8	35.8	35.8
MIRR (%)	negative	20.7	16.6	13.0	11.2	10.0	9.2

Table 7: Investment Criteria for FRDC Investment in Project 2017-242

Investment criteria	**Number of years from year of last investment**						
	0	**5**	**10**	**15**	**20**	**25**	**30**
Present value of benefits ($m)	0.04	0.54	0.73	0.75	0.76	0.77	0.78
Present value of costs ($m)	0.26	0.26	0.26	0.26	0.26	0.26	0.26
Net present value ($m)	-0.22	0.28	0.47	0.49	0.50	0.51	0.52
Benefit-cost ratio	0.16	2.10	2.83	2.89	2.94	2.98	3.01
Internal rate of return (%)	negative	30.8	35.7	35.8	35.8	35.8	35.8
MIRR (%)	negative	20.7	16.6	13.0	11.2	10.0	9.2

The annual undiscounted benefit and cost cash flows for the total investment for the duration of investment period plus 30 years from the last year of investment are shown in Figure 1.

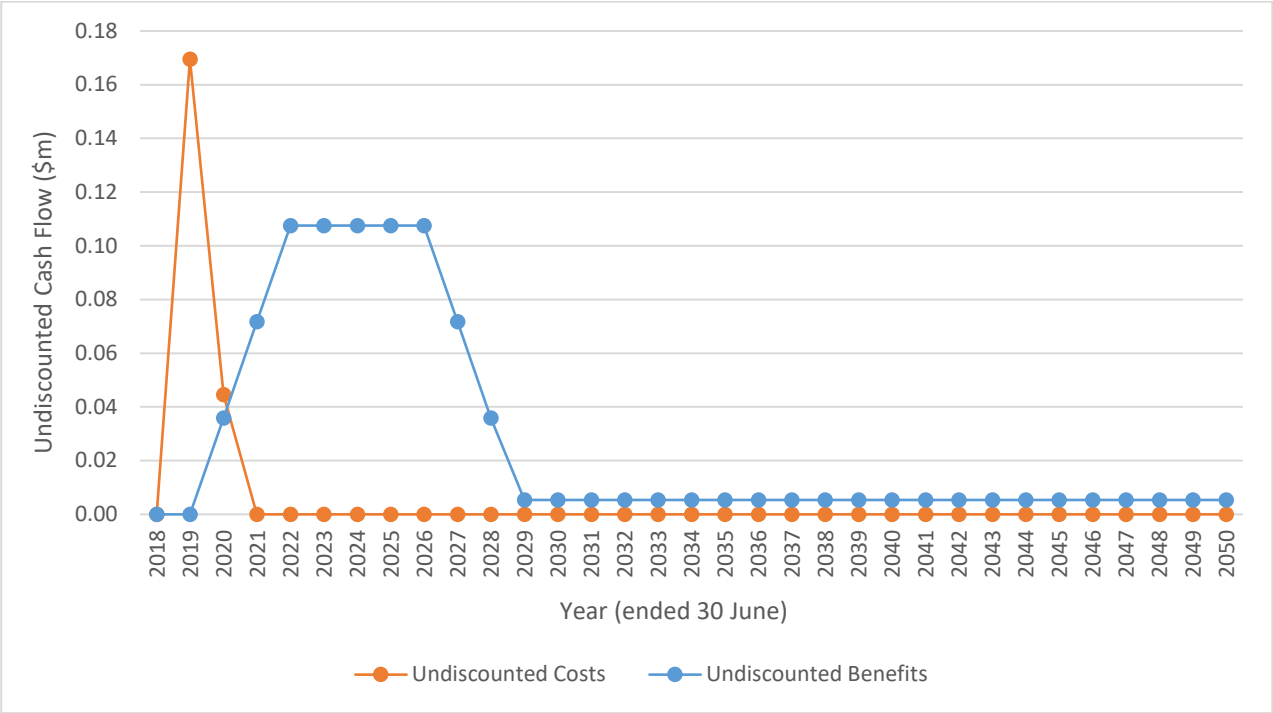

Figure 1: Annual Cash Flow of Undiscounted Total Benefits and Total Costs

Sensitivity Analyses

Sensitivity analyses were performed for variable that were considered (a) key drivers of the investment criteria, and/or (b) uncertain. Each sensitivity analysis was performed for the total investment and with benefits taken over the life of the investment plus 30 years from the last year of investment. All other parameters were held at their base values.

A sensitivity analysis was carried out on the discount rate. The results, shown in Table 8, showed a low to medium sensitivity to the discount rate. This was largely due to the benefit cash flows occurring over the short-term after the last year of investment in the project and therefore being subject to relatively less severe discounting.

Table 8: Sensitivity to Discount Rate
(Total investment, 30 years)

Investment Criteria	**Discount rate**		
	0%	**5% (base)**	**10%**
Present value of benefits ($m)	0.87	0.78	0.73
Present value of costs ($m)	0.21	0.26	0.31
Net present value ($m)	0.66	0.52	0.42
Benefit-cost ratio	4.06	3.01	2.37

A sensitivity analysis then was carried out on proportion of fisheries net profits assumed to be at risk from a loss of social license as this was uncertain. Table 9 shows the results. The investment criteria showed a moderate sensitivity to the proportion of fisheries net profits at risk. A break-even analysis indicated that the proportion of fisheries net profits at risk of loss of social license could decline to 6.6% and the investment criteria would remain positive (benefit-cost ratio of at least 1 to 1) with all other assumptions held at their base values.

Table 9: Sensitivity to the Proportion of Fisheries Net Profits at Risk from Loss of Social License
(Total investment, 5% discount rate, 30 years)

Investment Criteria	**Proportion of Fisheries Net Profits at Risk from Loss of Social License**		
	5%	**20% (base)**	**35%**
Present value of benefits ($m)	0.19	0.78	1.36
Present value of costs ($m)	0.26	0.26	0.26
Net present value ($m)	-0.06	0.52	1.10
Benefit-cost ratio	0.75	3.01	5.27

A sensitivity analysis was undertaken on the reduction in the risk of loss of social license attributable to the investment. The results, presented in Table 10, showed a high to moderate sensitivity to assumed reduction in risk of a loss of social license for Australian fisheries. This was expected as the change in risk was a key driver in the estimation of the impact valued. A break-even analysis showed that, with all other assumptions at base values, the investment criteria remained positive with a 0.3% reduction in risk attributable to the Project 2017-242 investment.

Table 10: Sensitivity to the Reduction in Risk of Loss of Social License
(Total investment, 5% discount rate, 30 years)

Investment Criteria	**Reduction in Risk of Loss of Social License**		
	0.5%	**1% (base)**	**2%**
Present value of benefits ($m)	0.39	0.78	1.55
Present value of costs ($m)	0.26	0.26	0.26
Net present value ($m)	0.13	0.52	1.29
Benefit-cost ratio	1.51	3.01	6.02

A final sensitivity analysis was undertaken on the counterfactual factor, the likelihood that the estimated benefits would have occurred without the Project 2017-242. The results, presented in Table 11, showed a high to moderate sensitivity to the assumed counterfactual factor. A break-even analysis showed that, with all other assumptions at base values, the investment criteria remained positive where it was assumed that 87% of the estimated total expected net benefits still would have occurred without the Project 2017-242.

Table 11. Sensitivity to the Counterfactual Factor
(Total investment, 5% discount rate, 30 years)

Investment Criteria	**Counterfactual Factor**		
	30%	**60% (base)**	**90%**
Present value of benefits ($m)	1.36	0.78	0.19
Present value of costs ($m)	0.26	0.26	0.26
Net present value ($m)	1.10	0.52	-0.06
Benefit-cost ratio	5.27	3.01	0.75

Confidence Rating and Other Findings

The results produced are highly dependent on the assumptions made, some of which are uncertain. There are two factors that warrant recognition. The first factor is the coverage of benefits. Where there are multiple types of benefits it is often not possible to quantify all the benefits that may be linked to the investment. The second factor involves uncertainty regarding the assumptions made, including the linkage between the research and the assumed outcomes.

A confidence rating based on these two factors has been given to the results of the investment analysis (Table 12). The rating categories used are High, Medium and Low, where:

High:	denotes a good coverage of benefits or reasonable confidence in the assumptions made
Medium:	denotes only a reasonable coverage of benefits or some uncertainties in assumptions made
Low:	denotes a poor coverage of benefits or many uncertainties in assumptions made

Table 12: Confidence in Analysis of Investment

Coverage of Benefits	**Confidence in Assumptions**
Medium-High	Low

The coverage of benefits was assessed as Medium to High. One of three impacts was valued and the impact valued was considered an important and direct benefit of the investment.

Confidence in assumptions was rated as Low. Changes to social license are very difficult to measure and, though evidence of change through education was apparent from project data, many of the assumptions used in the valuation framework were uncertain. However, sensitivity analyses showed that, even at more conservative values, the investment criteria were positive.

Conclusions

FRDC Project 2017-242 was funded to establish a mechanism for SIA to clearly understand and respond to community concerns and values and improve and maintain social license at an industry scale. The mechanism was required to have capacity to enable the seafood industry's growth, prosperity, and contribution to society into the future.

The investment is likely to have generated positive impacts, including:

- Maintained or improved social license to operate for the Australian seafood industry through uptake of ''Our Pledge'' as an improved mechanism for industry stakeholders to clearly understand and respond to community concerns and values and to enable the industry's growth, prosperity, and contribution to society on a continued basis.
- Increased regional community wellbeing from spill over benefits to regional communities from more economically and/or environmentally sustainable Australian seafood industry.
- Potentially improved security of resource access, regulatory certainty and trust, and positively impact mental health and safety within Australian Seafood Industry through improved decision makings by the industry about investing resources in undertaking specific engagement activities and strategies, which are informed by knowledge of their own as well as community values, and those industry behaviours that support or detract from levels of community trust and acceptance of their activities.

Total funding for the Project was $0.26 million (present value terms) and produced total expected net benefits of $0.78 million (present value terms). This produced an estimated net present value of $0.52 million, a benefit-cost ratio of 3.0 to 1, an internal rate of return (IRR) of 35.8%, and a modified IRR of 9.2% (over 30 years, using a 5% discount rate and 5% finance rate).

Given the conservative assumptions made (including exclusion of aquaculture from the impact valuation) and the fact that two impacts were not valued in monetary terms, the investment criteria reported are likely to be an underestimate of the true performance of the investment in Project 2017-242 and the positive results should be viewed favourable by FRDC, the Australian Government, industry, and other RD&E stakeholders.

Glossary of Economics Terms

Cost-benefit analysis:	A conceptual framework for the economic evaluation of projects and programs in the public sector. It differs from a financial appraisal or evaluation in that it considers all gains (benefits) and losses (costs), regardless of to whom they accrue.
Benefit-cost ratio:	The ratio of the present value of investment benefits to the present value of investment costs.
Discounting:	The process of relating the costs and benefits of an investment to a base year using a stated discount rate.
Internal rate of return:	The discount rate at which an investment has a net present value of zero, i.e. where present value of benefits = present value of costs.
Investment criteria:	Measures of the economic worth of an investment such as Net Present Value, Benefit-Cost Ratio, and Internal Rate of Return.
Modified internal rate of return:	The internal rate of return of an investment that is modified so that the cash inflows from an investment are re-invested at the rate of the cost of capital (the re-investment rate).
Net present value:	The discounted value of the benefits of an investment less the discounted value of the costs, i.e. present value of benefits - present value of costs.
Present value of benefits:	The discounted value of benefits.
Present value of costs:	The discounted value of investment costs.

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